



LEGEND

SURFICIAL GEOLOGY

QUATERNARY



Glacier: A mass of ice formed from compacted snow in an area where snow accumulation exceeds melting and sublimation.

POST-FRASER GLACIATION

NONGLACIAL ENVIRONMENT



ANTHROPOGENIC DEPOSITS: rubble, diamicton, and gravel; 1 to 10 m thick; forming flat and steep surfaces; replaced by human activity.



ORGANIC DEPOSITS: peat and muck; 1 to 10 m thick (typically 2 to 3 m); forming fans and bogs; organic deposits too small to be shown at this scale occur within other units; common within abandoned meltwater channels.



ALLUVIAL (FLUVIAL) DEPOSITS: gravel and sand with minor silt and clay, deposited by streams; commonly stratified; generally well sorted except in alluvial fans.



Floodplain sediments: sand and silt, commonly including organic materials and underlain, in many places, by gravel; 1 to 3 m thick; occurring as flat surfaces close to river level; prone to flooding.



Terrace sediments: stratified sand and gravel overlain by a veneer of sand and silt; 2 to 10 m thick; forming terraces well above flood level.



Deltaic sediments: stratified sand and gravel underlain by silt and clay; generally 2 to 15 m thick; occurring at the mouth of streams entering lakes.



Fan sediments: poorly sorted sand and gravel, with diamicton; generally 2 to 16 m thick; forming fans at the toe of slopes; Al-CI alluvial fan associated with the Cheakye fan differs geomorphologically.



COLLUVIAL DEPOSITS: diamicton and rubble deposited by various mass-wasting processes, ranging from slope wash to rock fall; composition dependent on source materials.



Landslide debris: mostly unconsolidated sediments, with texture dependent on source materials; generally 1 to 10 m thick, but may exceed 10 m near the toe of large landslides; forming hummocky accumulations on lower slopes and valley floor. Where possible, landslides were identified by type: Ch-cl, debris flow deposit; Ch-ds, debris avalanche; Ch-ds, debris slide; Ch-rs, rock slide; Ch-rs, rock avalanche; Ch-sa, snow avalanche track.



Slope colluvium: rock fragments in a matrix of boulders, gravel, sand, silt, and minor clay; 1 to 10 m thick; formed by bedrock weathering or reworking of unconsolidated deposits on steep (>30°) slopes; commonly gullied.



Talus: rubble and block accumulations at the bottom of steep (>40°) slopes; 1 to 10 m thick; forming aprons and cones.



Colluvial veneer: rock fragments in a matrix of boulders, gravel, sand, silt; usually <3 m thick; formed by bedrock weathering or reworking of unconsolidated deposits.

FRASER GLACIATION (LATE WISCONSINIAN)

PROGLACIAL AND GLACIAL ENVIRONMENT



GLACIOMARINE DEPOSITS: sand and gravel, well to poorly sorted, and commonly stratified; deposited by glacial meltwater; bedding disrupted locally due to melt of glacier ice.



Glaciomarine terrace sediments: sand and gravel, stratified to massive; 1 to 10 m thick; forming flat surfaces perched well above alluvial deposits or associated with meltwater channels, may be fossiliferous.



GLACIOFLUVIAL DEPOSITS: sand and gravel, well to poorly sorted, and commonly stratified; deposited by glacial meltwater; bedding disrupted locally following the melting of supporting ice.



Ice-contact deposits: sand and gravel, stratified to massive and commonly faulted; generally >3 m thick; forming hummocky surfaces. Gh-CI is an ice-contact debris flow complex associated with the Cheakye fan which differs geomorphologically and compositionally.



Glaciofluvial terrace sediments: sand and gravel, stratified to massive; 1 to 10 m thick; forming flat surfaces perched well above alluvial deposits or associated with meltwater channels.



Glaciofluvial blanket: sand and gravel, stratified to massive; generally 1 to 10 m thick; sediment cover is continuous, but the underlying morphology is visible; commonly located near the mouth of meltwater channels.



Proglacial deltaic sediments: sand and gravel with minor silt and clay; 5 to 10 m thick; commonly overlying glaciolacustrine silt and clay; forming, in part, slightly inclined surfaces.



Glaciofluvial veneer: sand and gravel, well to poorly sorted, and commonly stratified; deposited by glacial meltwater; bedding disrupted locally following melting of supporting ice, 1 to 5 m thick.

GLACIAL ENVIRONMENT



TILL: Poorly sorted diamicton consisting of pebbles, cobbles, and boulders in a sandy to clayey matrix, directly deposited by glaciers; includes colluvium (reworked till) on steep slopes, and small units of glaciofluvial sediments, especially in valley bottoms and near the mouths and banks of meltwater channels; till surface is commonly ridged on steep slopes.



Till blanket: continuous till cover with few bedrock outcrops; 1 to 3 m thick on average; conforming to and may be locally obscuring morphology of underlying units.



Till veneer: discontinuous till cover with abundant bedrock outcrops; 1 m thick on average; reflecting topography of underlying bedrock.

PRE-QUATERNARY



BEDROCK: sedimentary, low-grade metamorphic, volcanic, and intrusive rocks of Jurassic to Quaternary age, including, in places, till veneer, drift, and colluvium.

Geological boundary (defined, inferred)

Limit of mapping

Ice-contact scarp

Escarpment

Large meltwater channel

Small meltwater channel

Sand and gravel pit (large, small)

Travel directions of landslides, mainly debris flows and snow avalanches

Crest

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REFERENCES

Orden, D.M. and Varnes, D.J., 1996. Landslide types and processes. In: Special Report 247. Landslide Investigation and mitigation. A.K. Turner and R.L. Schuster (eds.) National Research Council, Transportation Research Board, Washington D.C., p.36-78.

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921.189	921.190	921.191	921.192	921.193	921.194
921.195	921.196	921.197	921.198	921.199	921.200

TERRAIN RESOURCE INFORMATION MANAGEMENT (TRIM) AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS



Author: A. Blais-Stevens

Geology by A. Blais-Stevens, 2004-2007

Compilation and interpretation was carried out using British Columbia 1994 colour aerial photography series 30BCC04, at 1:15,000 scale.

Digital cartography by M. Méthot and N. Côté, Data Dissemination Division (DDD)

This map was produced from processes that conform to the Scientific and Technical Publishing Services Subdivision (STPS) Quality Management System, registered to the ISO 9001:2000 standard

OPEN FILE 5323

SURFICIAL GEOLOGY AND LANDSLIDE INVENTORY OF THE MIDDLE SEA TO SKY CORRIDOR

BRITISH COLUMBIA

Scale 1:50 000/Échelle 1/50 000

kilometres 1 0 1 2 3 4 kilometres

Universal Transverse Mercator Projection
North American Datum 1983
© Her Majesty the Queen in Right of Canada 2008

Projection universelle de Mercator
Système de référence géodésique nord-américain, 1983
© Sa Majesté la Reine du chef du Canada 2008

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Digital base map from Terrain Resource Information (TRIM), modified by DDD

Shaded relief image prepared by DDD, derived from the digital elevation model, based on TRIM contours elevation data

illumination: azimuth 315°, altitude 45°, vertical factor 1x

Magnetic declination 2008, 18°08' E, decreasing 12.6" annually.

Elevations in metres above mean sea level
Contour interval 20 m

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2008. Surficial geology and landslide inventory of the middle sea to sky corridor, British Columbia, Geological Survey of Canada, Open File 5323, scale 1:50 000.